



Technical Data Sheet

AFFINITY™ PL 1881G Polyolefin Plastomer

Overview

AFFINITY™ PL 1881G Polyolefin Plastomer (POP) is produced via INSITE™ Technology. It is designed for a variety of demanding packaging applications, including high-speed form-fill-seal products.

- Excellent ultimate hot tack strength
- Low temperature sealability
- Ability to seal through contamination
- Outstanding optics

Complies with:

- U.S. FDA FCN 424
- Canadian HPFB No Objection (with limitations)
- EU, No 10/2011

Consult the regulations for complete details.

Sustainability Attribute:



Additive

- Antiblock: 2500 ppm
- Slip: 750 ppm

Physical Properties

Physical	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method ¹
Density	0.904	g/cm ³	0.904	g/cm ³	ASTM D792
Melt Index (190°C/2.16 kg)	1.0	g/10 min	1.0	g/10 min	ASTM D1238
Mechanical					
Coefficient of Friction vs. Itself — Dynamic	0.15		0.15		ASTM D1894
Films					
Film Thickness — Tested	2	mil	51	µm	
Film Puncture Energy (2.0 mil (51 µm))	71.6	in·lb	8.09	J	Dow Method
Film Puncture Force (2.0 mil (51 µm))	18.5	lbf	82.3	N	Dow Method

1. ASTM: American Society for Testing and Materials

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

Physical Properties (Cont.)

Films	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method
Film Puncture Resistance (2.0 mil (51 µm))	265	ft·lb/in ³	21.9	J/cm ³	Dow Method
Secant Modulus					ASTM D882
2% Secant, MD: 2.0 mil (51 µm)	14100	psi	97.4	MPa	
2% Secant, TD: 2.0 mil (51 µm)	14100	psi	96.9	MPa	
Tensile Strength					ASTM D882
MD: Yield, 2.0 mil (51 µm)	1170	psi	8.07	MPa	
TD: Yield, 2.0 mil (51 µm)	1040	psi	7.17	MPa	
MD: Break, 2.0 mil (51 µm)	6580	psi	45.4	MPa	
TD: Break, 2.0 mil (51 µm)	6170	psi	42.5	MPa	
Tensile Elongation					ASTM D882
MD: Break, 2.0 mil (51 µm)	590	%	590	%	
TD: Break, 2.0 mil (51 µm)	630	%	630	%	
Dart Drop Impact (2.0 mil (51 µm))	> 830	g	> 830	g	ASTM D1709B
Elmendorf Tear Strength ²					ASTM D1922
MD: 2.0 mil (51 µm)	560	g	560	g	
TD: 2.0 mil (51 µm)	730	g	730	g	
Seal Initiation Temperature ³					Dow Method
2.0 mil (51 µm)	185	°F	85.0	°C	
Block Force	70	g	70	g	ASTM D3354-89
Thermal					
Vicat Softening Temperature	187	°F	86.0	°C	ASTM D1525
Melting Temperature (DSC)	212	°F	100	°C	Dow Method
Optical					
Gloss (20°, 2.00 mil (50.8 µm))	112		112		ASTM D2457
Clarity (2.00 mil (50.8 µm))	83.0		83.0		ASTM D1746
Haze (2.00 mil (50.8 µm))	3.20	%	3.20	%	ASTM D1003
Extrusion					
Melt Temperature	430	°F	221	°C	
Extrusion Notes					
Fabrication Conditions for Blown Film:					
- Screw Size: 2.5 in. (63.5 mm); 24:1 L/D - Screw Type: DSB II - Die Gap: 70 mil (1.8 mm) - Melt Temperature: 430°F (221°C) - Output: 6 lb/hr/in. of die circumference - Die Diameter: 6 in. - Blow-Up Ratio: 2.5:1 - Screw Speed: 40 rpm					

- Modified rectangular test specimen.
- Temperature at which 2 lb/in. (8.8 N/25.4 mm) heat seal strength is achieved. Heat Seal Strengths, Topwave HT Tester 0.5 S dwell, 40 psi bar pressure. Pulled on Instron at 10 in./min (250 mm/sec).

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